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TEST PROGRAM	DATE PREPARED
	26 April 1963

PROJECT, TASK, ESP (U)	PROG STRUCTURE	AFSC PRIORITY	AFFTC LIC	DATE REVISED
Project Directive 58-83		(U) 01	(U) 9341	

TITLE
(U) Support D. E. S. Tests

PROJECT ENGINEER (U)	PHONE NUMBER (U)	APPROVING OFFICER (U)
CWO C. O. Laine	266	A. V. Stamm, Chief, Projects Branch

ITEM(S) TO BE TESTED
(S) A modified C-2A ejection seat, an experimental personnel parachute, a full pressure suit and a 1300 cubic inch fibreglas survival kit.

ESTIMATED COMPLETION DATE
(U) September 1963

REIMBURSABLE
(U) ☐ YES ☒ NO

BRIEF PURPOSE (S) To evaluate the C-2A ejection seat system, to determine the reliability of an experimental personnel parachute when used with the C-2A ejection seat and to determine the compatability of the full pressure suit and seat survival kit with the parachute and seat.

REQUIRED NR SUCCESSFUL TESTS
(U) 5

ESTIMATED TOTAL NR TESTS
(U) 7

TEST REQUIREMENTS – DETAILS

	TEST CONDITION NUMBER	REQUIRED NUMBER SUCCESSFUL TEST	NUMBER OF TESTS SUCCESSFULLY COMPLETED	TEST CONDITIONS: AIRCRAFT: AF TYPE NR	AIRCRAFT: ANY SUITABLE	DROP SPEED MACH NO.	DROP ALT PRESSURE (Feet)	SUSPEND WEIGHT (lbs)	PARACHUTE: REEFING DATA: LINE LENGTH (Feet)	REEFING DATA: DELAY (Seconds)	RIG PER SKETCH NUMBER	LOAD: ARTICULATED DUMMY	TORSO DUMMY	LIVE JUMPER	WEIGHT PLATFORM	PLATFORM	PLATFORM	CONTAINER	WEIGHT BOMB	CYL VEHICLE	SPECIAL VEHICLE	EJECTION SEAT	SEE REMARKS
(S)	1	1		F-106B		1.44	50,000	320	INFORMATION FLIGHT			X										X	1
(S)	2	1		F-106B		STATIC SEA LEVEL						X										X	2,3, 10
(S)	3	1		F-106B		.9	20,000	320				X										X	2,5,6, 7,9
(S)	4	1		F-106B		1.44	50,000	320				X										X	2,3,4 6,7,9
(S)	5	1		F-106B		1.82	46,000	320				X										X	2,5,6, 7,9
(S)	6	1		F-106B		.95	65,000	320				X										X	2,5,6 7,8,9
	7																						
	8																						
	9																						
	0																						

DOWNGRADED AT 3 YEAR INTERVALS; DECLASSIFIED AFTER 12 YEARS. DOD DIR 5200.10

REMARKS

1. (S) The dummy and C-2A ejection seat will not be ejected from the F-106B aircraft. This is an informatory flight to determine the effect of airblast on the dummy's head and parachute risers. The flyable hatch will be off on this test. Cockpit cameras will be installed to record airblast effect.

2. (S) The dummy and C-2A ejection seat will be ejected from the F-106B aircraft.

3. (S) The dummy will separate from the seat .6 seconds after rocket burn out.

4. (S) The dummy will wear an A/P22S (mod) full pressure suit.

63-AFFTC-14849

5. (S) The dummy will separate from the seat 4 seconds after rocket burn out.

USAF review(s) completed.

6. (S) A four channel T. M. package will be installed in the seat survival kit to record drogue parachute [illegible]

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7. (S) Rate gyros will be installed in the dummy and seat to determine spin or turn rates.

8. (S) This altitude may be changed by test request to 55,000 feet.

9. (U) Air-to-air photo planes and photographers will be provided by FTFOF and FTFSF (AFFTC). Ground-to-air photo coverage (Big Eye camera) will be required from NPF. Color Ektachrome film (2 - 1200-ft. rolls) will be furnished by FTFSF to NPF.

10. (S) The dummy and seat will be rocketed from the aft cockpit of the F-106B with the aircraft parked on the Marston Matting at the cargo net area.

WORK CENTERS SUPPORT RESPONSIBILITIES

AFFTC - FTFOF

(U) Test date - prior to 16 May 63 - Test condition No. 1- (1) F-104D photo aircraft.
(U) Test date - 16 May 63 - Test condition No. 2 - No requirement.
(U) Test date - 4 June 63 - Test condition No. 3 - (3) T-38 photo aircraft.
(U) Test date - 11 June 63 - Test condition No. 4 - (3) F-104D photo aircraft.
(U) Test date - 18 June 63 - Test condition No. 5 - (3) F-104D photo aircraft or 2 F-104D and 1 T-38 aircraft.
(U) Test date - 25 June 63 - Test condition No. 6 - (1) Flight Test School F-106B and 2 T-38 aircraft.

FTFSF

(U) (1) Provide 3 qualified aerial photographers per flight except test condition No. 1 requires one photographer.
(U) (2) Provide 2 1200-foot rolls of Ektachrome color film for use on the NPF Big Eye camera. The exposed footage will be returned to FTFSF for processing and printing.
(U) (3) Provide a Mitchell tracker camera and operator to cover test conditions 3 through 6. The Mitchell camera will be run at 100 fps for approximately 900 seconds.
(U) (4) All air-to-air photo coverage will be at 200 fps. Approximately 1500 seconds of coverage will be required to cover all test conditions.
(U) (5) Documentary footage will be made on all phases of testing providing it does not interfere with the conduct of the program.
(U) (6) Uniform title boards for all test motion pictures will be required. Information required on the title boards will be provided by the Project Engineer.
(U) (7) The 6511th Test Group cannot provide transportation for the Mitchell tracker and operator. It will be the responsibility of FTFSF to insure that the tracker and operator are in place prior to a scheduled test date.
(U) (8) Four prints of all motion picture coverage are required.
(U) (9) FTFSF will provide TDY fund citations for photographers when required.

FTL

(U) Provide guidance and assistance to insure that the test program is conducted as expeditiously as possible without compromising the security of the program.

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(U)Project Directive 58-83, AFSC Priority 01: Title: Support D. E. S. Tests (Continued)

FTLO, FTLOO, FTLOP, FTLOR, FTLOS, FTLOV

(U)(1) Provide a qualified project pilot for 5 tests.
(U)(2) Provide schedules as requested for 6 tests.
(U)(3) Provide a pressure suit for the pilot, if required, for 1 test.
(U)(4) Provide packing tables for contractors to pack 5 parachute assemblies.
(U)(5) Provide fabrication facilities to modify five drogue parachute assemblies for telemetric strain link installation.
(U)(6) Provide personnel to load the rigged dummy in the F-106B aircraft for 6 tests.
(U)(7) Provide one ejection seat specialist to assist the contractor on preparatory work for 6 tests.
(U)(8) Provide personnel to recover the dummy, main parachute and drogue parachute at TATU for 4 tests.
(U)(9) Provide transportation from TATU to the base for test equipment used on 4 tests.
(U)(10) Provide a drop zone controller to coordinate four tests at TATU.
(U)(11) Provide fabrication for a heat resistant fabric heat shield for the static test from the F-106B aircraft.
(U)(12) Provide transportation to Edwards AFB for the Project Engineer the day prior to each of 4 tests to brief the photographers and pilots.

FTLS

(U)(1) Coordinate with Public Works to obtain Marston Matting in the cargo net area for the static test firing.
(U)(2) Procure 6 sets of extra large white coveralls from J. C. Penney Co. for 6 tests. Estimated cost: $4.95 each.

FTLF, FTLFI

(U)(1) Provide range facilities for 4 tests (RAWIN, radar, cinetheodolite and data reduction).
(U)(2) Install 4-channel telemetric packages in two seat survival kits to be used on 4 tests.
(U)(3) Install four rate gyros in the dummies and seats for 4 tests.
(U)(4) Provide personnel to transcribe recorded telemetric data into graph form.
(U)(5) Provide personnel to rig four dummies for riser force-vs-time data using the rigging method for LMC-6128.

FTLP

(U)(1) Provide support to insure that documentation of this program is in order.
(U)(2) Insure that appropriate distribution of test programs is made.
(U)(3) Participate in a preplanning conference to determine problem areas, if any.

FTLGM

(U)(1) Provide a Project Engineer.
(U)(2) Prepare a test program.
(U)(3) Conduct two preplanning conferences.
(U)(4) Initiate test requests for 6 tests.
(U)(5) Prepare weekly activity reports.
(U)(6) Prepare monthly progress reports.
(U)(7) If required, prepare a technical documentary report for publication.

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FTEE

(U) (1) Provide an F-106B aircraft for 6 tests.
(U) (2) Provide maintenance personnel to remove the standard canopy and interim seat. Install the test canopy minus the flyable hatch assembly.
(U) (3) Provide maintenance support for any or all high performance aircraft that should be required to land at NAF.
(U) (4) Coordinate with Colonel Thomas at Maintenance Control for approval of the installation of the C-2A ejection seat.
(U) (5) Provide a tug and personnel to tow the aircraft to the cargo net area when required (1 static test).
(U) (6) Install three cockpit cameras in the aft cockpit of the F-106B aircraft. Details will be provided by the Project Engineer.
(U) (7) Insure that the tail and left wing cameras are operable. If possible obtain a telescope for the right-wing camera.
(U) (8) Insure that the pilot has a camera off-on switch.
(U) (9) Insure that the pilot has a telemetry off-on switch.

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DATA REQUIREMENTS – DETAILS

(U) LIC 9341

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TEST CONDITION NUMBER	TIME: EJECTION	DEPLOYMENT	FILLING	OPENING	DOWN	DROP LINE	RATE OF DESCENT	VELOCITY VS TIME	ALTITUDE VS TIME	FORCE VS TIME	G'S VS TIME	EVENTS VS TIME	RPM	RATE GYRO'S	ON-BOARD RECORDING	MAGNETIC TAPE	TELEMETERING	DROP LINE (____ Seconds)	RADAR CONTROL	RAWIN	CONTRAVES	SPACE POSITIONING		DATE CONDITION SUCCESSFULLY COMPLETED
1																								
(U) 2	X	X	X	X	X		X	X	X	X		X	X	X			X		X	X	X	X		
) 3																								
(U) 4	X	X	X	X	X		X	X	X	X		X	X	X			X		X	X	X	X		
(U) 5	X	X	X	X	X		X	X	X	X		X	X	X			X		X	X	X	X		
(U) 6	X	X	X	X	X		X	X	X	X		X	X	X			X		X	X	X	X		
7																								
8						(U) CINETHEODOLITE COVERAGE IS REQUIRED UP TO FOUR																		
9						SECONDS AFTER MAIN PARACHUTE DEPLOYMENT.																		
0																								

PHOTO REQUIREMENTS – DETAILS

CONDITION NR	REQUIRED NR SUCCESSFUL TESTS	ITEMS TO BE PHOTOGRAPHED (Give Size, Particular Item to be covered, Operational Sequence, etc)	TYPE COVERAGE	FILM SIZE (mm)	FRAMES PER SECOND	BLACK & WHITE	COLOR	ACTION COVERED: EXTRACTION	DEPLOYMENT	FILLING	DESCENT	LANDING	DAMAGE
	(U)	(U) A 78" drogue, 24' of suspension line & a 6' dummy NUMBER COPIES REQUIRED: STILLS (U) 5 each; MOVIES (U) 4 each											
		The listed photo requirements pertain to motion picture coverage to be provided by FTFSF, AFFTC except for still photos and Big Eye motion picture coverage. This support is required from NPF. NPF will be required to service the F-106B mounted cameras.	P/A or Bomb Bay										
			Air to Air										
			Ground to Air										
			Bmb to Air										
			Sequence Stills										
			Stills										
			Big Eye										
1		The F-104D will fly along side of the F-106B. The photographer will frame the dummy in the aft cockpit to record the effect of airblast on the dummy. The F-106B pilot will turn his cameras on as he enters Mach 1.44 and run the cameras for 10 seconds.	COCKPIT	16	800		X						
			Air to Air	16	200		X	COCKPIT AREA					
			Ground to Air										
			Bmb to Air										
			Sequence Stills										
			Stills										
			Big Eye										
2		NPF will provide 3 ground-to-air cameras. The photographer will frame the ejection, the dummy separation and the impact. One ground-to-air camera will be set up on top of the drying tower. FTFSF will provide documentary type motion picture coverage.	P/A or Bomb Bay										
			Air to Air										
			Ground to Air	16	200		X	X	X	X	X	X	X
			Bmb to Air										
			Sequence Stills										
			Stills				X						X
			Big Eye										
3 4 5 6		Details for these tests will be provided at a pre-test briefing. NPF will load cockpit cameras and provide still and Big Eye coverage.	COCKPIT	16	800		X	X					
			Air to Air	16	200		X	X	X	X			
			Ground to Air									X	
			Bmb to Air										
			Sequence Stills										
			Stills										X
			Big Eye	16	100		X						

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OTHER REQUIREMENTS (U) LIC 341

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WHIRL TOWER	DROP TOWER	WATER AREA	OTHER
N/A	N/A	N/A	(U) TATU Range

SPECIAL SUPPORT EQUIPMENT

TRANSPORTATION	LOAD HANDLING (Loading and Retrieving)	OTHER
(U) TATU recovery vehicles	(U) fork lift to load dummies in the aft cockpit of the F-106B	(U) Photo chase planes, Mitchell tracker and photographers, AFFTC

NON-DROP TEST REQUIREMENTS (Bench Tests, Crane Drops, etc)

(U)Public Works will lay tubulated steel planking from 7th Street out to the cargo net area for a static test firing of the dummy and seat from the F-106B aircraft.

AIRCRAFT REQUIREMENT

TYPE	DROP	SUPPORT	HOURS
(U)F-106B	7:00	2:00	9:00
(U)F-104D		6:00	6:00
(U)T-38		10:00	10:00
		TOTAL:	25:00

ESTIMATED MANHOURS REQUIRED

SECURITY INSTRUCTIONS: SECRET

(U) SCHEDULE	FY 63												FY 64												FY 65 QTR				FY 66 QTR			
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	1	2	3	4	1	2	3	4
(U)ACTION CODE [1]										S	1	5	R	R	R																	

OTHER COMMENTS

[1] C= Test Complete R = Report Due S = Preparation T = Testing X = Filler Code

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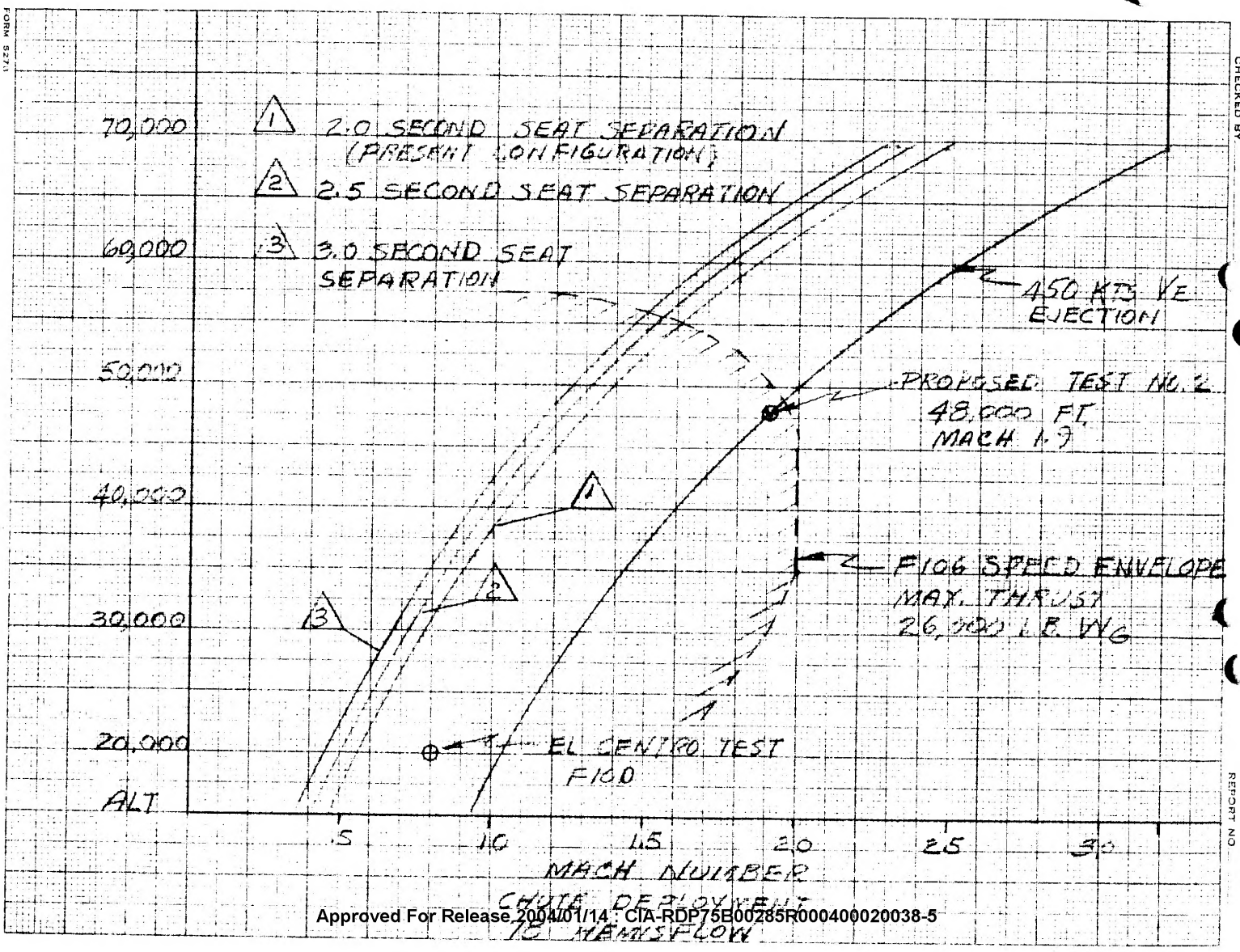

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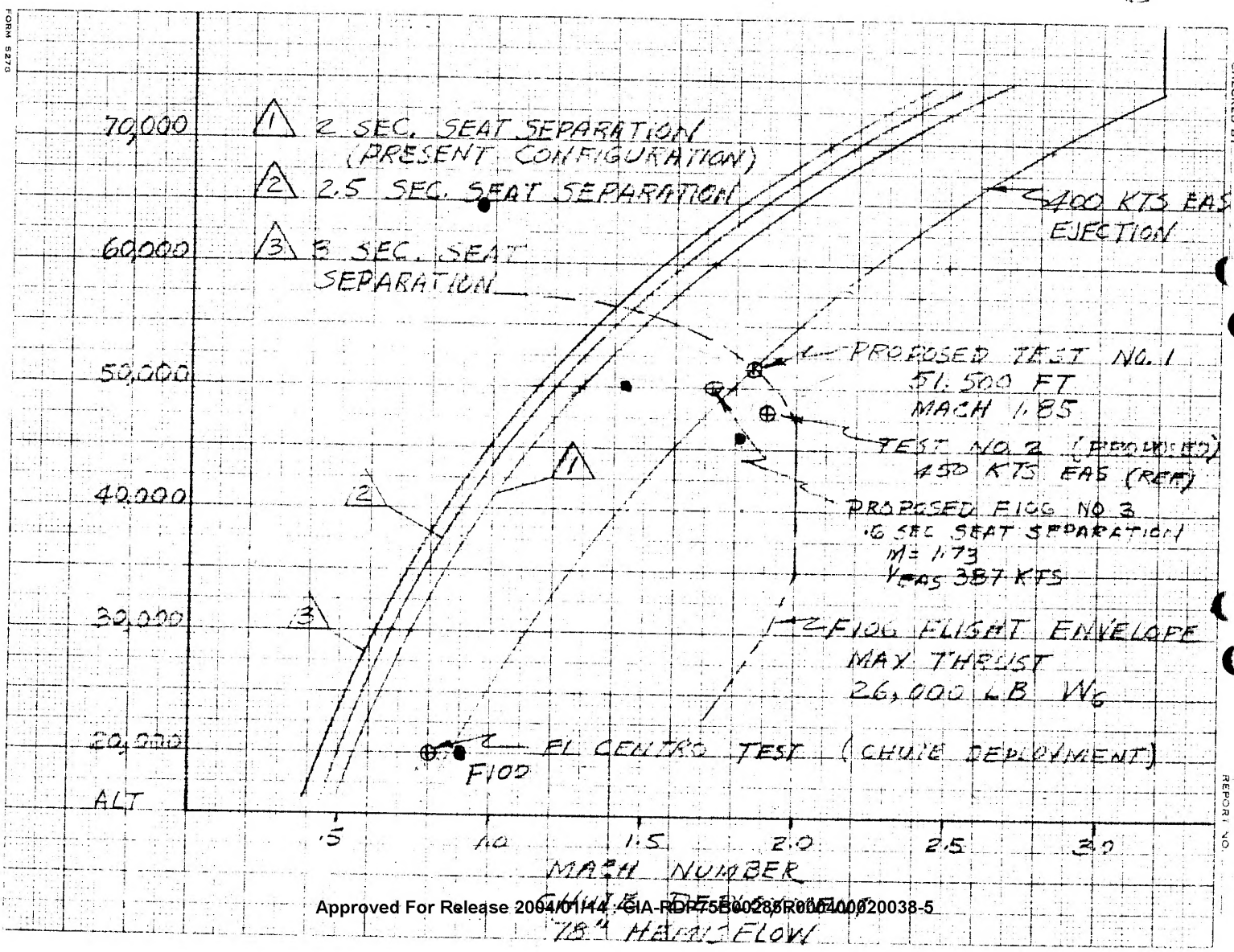

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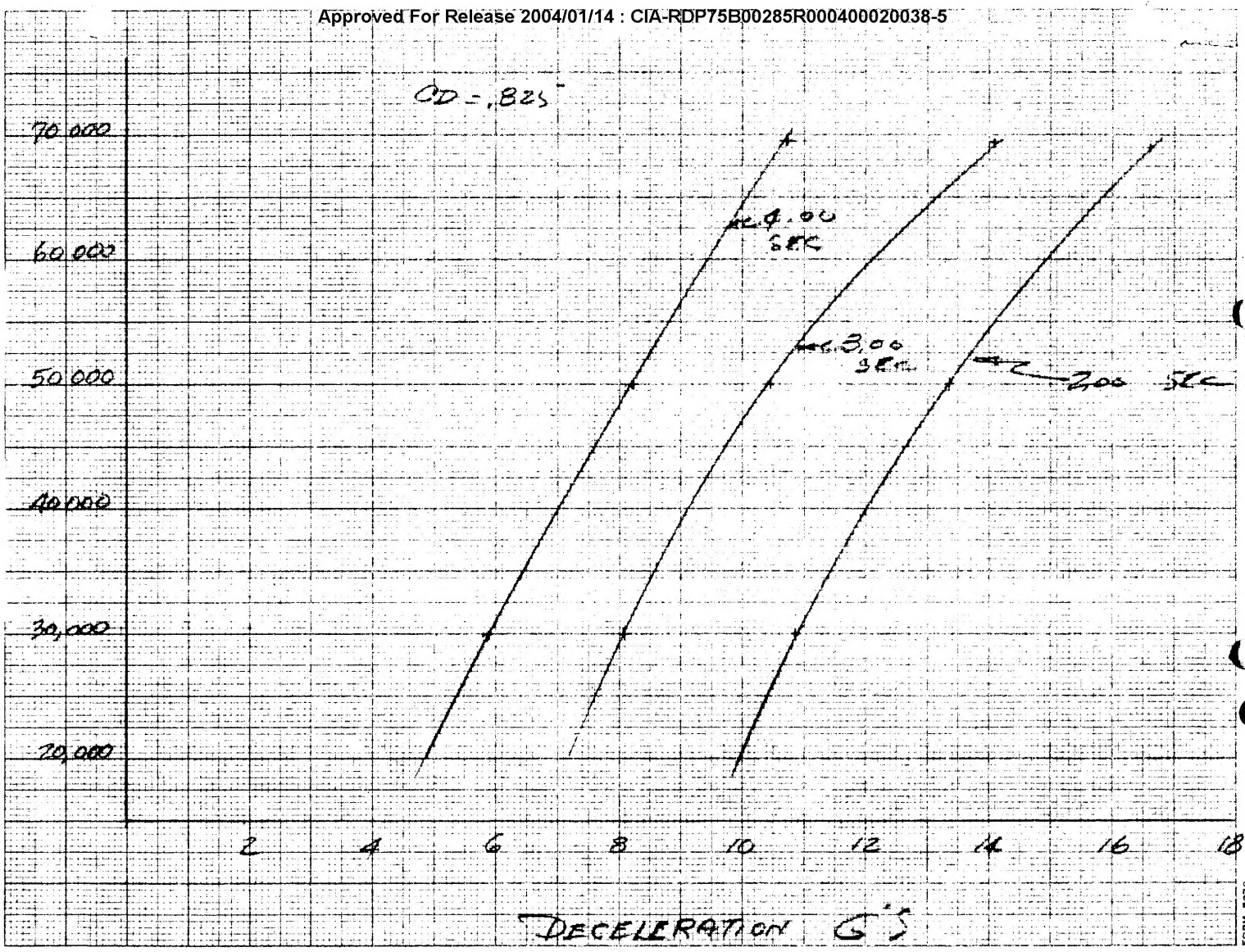

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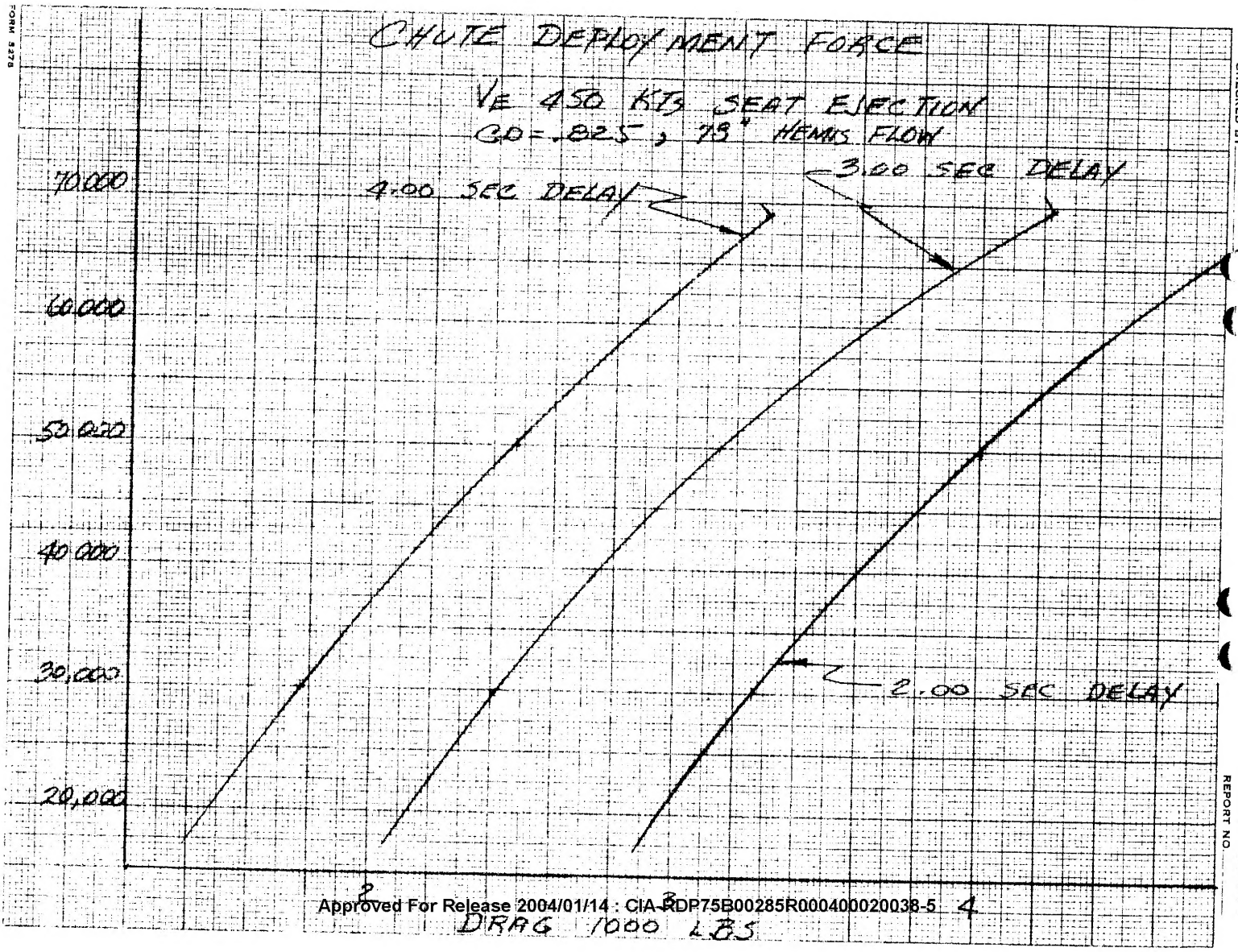

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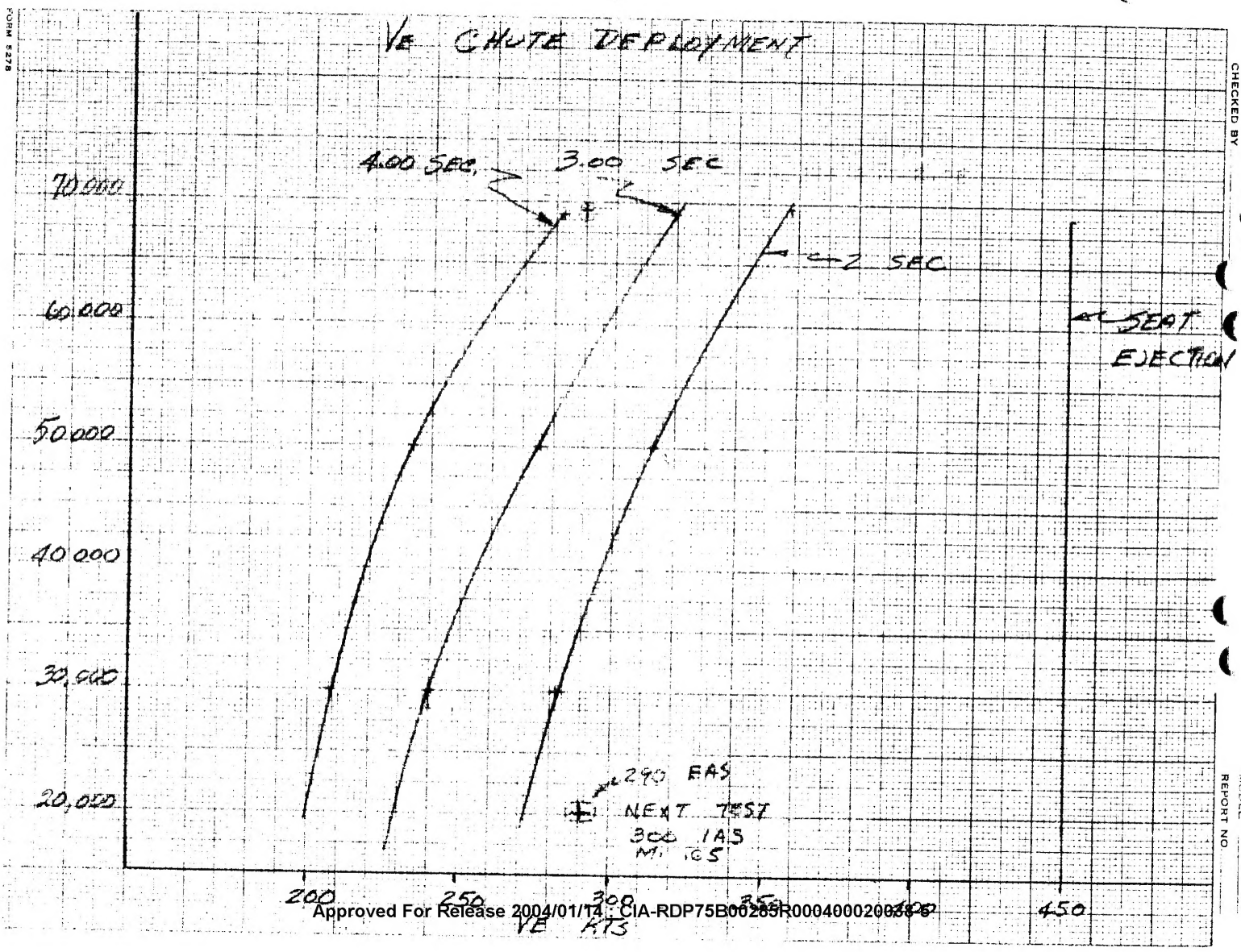

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